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# FINANCING HEALTH SERVICES IN POOR RURAL CHINA: A STRATEGY FOR HEALTH SECTOR REFORM\*

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## INTRODUCTION

Since 1950 China has transformed itself from 'the sick man of Asia' to a country with better than average health indices for its level of national income. This achievement was due to a number of factors including a dramatic fall in the prevalence of severe poverty, improvements in the rural environment, increases in levels of literacy and the provision of services to meet priority health needs.

The development of the health sector paralleled the establishment of a command economy organised into state-owned enterprises in the cities and agricultural collectives, called communes, in the countryside. Its structure reflected this economic and administrative environment. It was controlled jointly by the Ministry of Public Health (MoPH) and the Communist Party through a tightly organised hierarchy. The health services mobilised the population in public health campaigns and provided almost universal access to preventive programmes and basic curative care.

During the late 1970s the government began to introduce market-oriented reforms and devolve its financial management. For several years the School of Public Health of the Shanghai Medical University, in collaboration with the Institute of Development Studies in England, has been studying the impact of these changes on rural health services. This paper outlines the problems which health services in poor rural counties face and proposes a strategy for reform. The major points it makes are summarised in the box on page 2 and the research findings which led to these recommendations are presented in the Annex. The aim is to contribute to the formulation of strategies which ensure that the population of poor rural areas has access to essential health services.

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## A STRATEGY FOR HEALTH SECTOR REFORM IN POOR RURAL AREAS

### The impact of economic reform

- shift of economic burden from government and collective bodies to individuals;
- increased autonomy of providers of health services; and
- weakening of administrative and political controls.

### Major problems of rural health services in poor areas

- run down of facilities and shortages of equipment;
- financial barriers to access to curative services, particularly inpatient care;
- decreased coverage by preventive programmes in very poor areas;
- financial problems of health facilities particularly at village and township levels; and
- falls in funding for supervision and in-service training.

### Components of a strategy health sector reform

- define the components of a package of preventive and essential curative services and estimate its cost;
- establish a secure financial basis for basic rural health services in the context of an overall reform of local government finance;
- strengthen the system of social relief to ensure that essential medical care for the poor is adequately financed;
- take measures to decrease waste such as improving drug use and rationalising the number of salaried health workers;
- pay health workers a salary linked to the achievement of performance targets;
- develop contracts between local governments and health facilities which specify the services to be provided and their cost;
- re-establish a capacity to plan and monitor health services; and
- ensure political support for basic health services by all levels of government and establish mechanisms to make the services accountable to the population.

## THE PROBLEMS OF HEALTH SERVICES IN POOR RURAL AREAS

The changes which have taken place in China's economic and administrative systems have had the following effects on rural health services:

- health facilities receive a smaller share of their funding from government and other collective bodies and earn most of their revenue from patients;
- health service providers have more freedom to choose what services to provide and how to spend their money; and
- government officials and local political leaders have less influence over the behaviour of health service providers.

The overall effect of these changes has been to weaken the organisation of health services and make health workers more responsive to economic incentives. In some parts of the country alternative mechanisms have been established for funding and overseeing health services. In other areas, particularly very poor ones, rural health services resemble an unregulated market. In most parts of the country the situation is between these extremes.

Health services in most poor rural counties suffer from one or more of the following problems:

#### **Run down facilities and lack of equipment**

Most villages have some kind of health facility even if it is only the house of a health worker. However, in poor counties many village health stations and township health centres are in poor condition and do not have basic equipment.

#### **Problems of access to curative care**

Most people see a health worker when they are sick. However, some poor households find it difficult to pay for a full course of drugs or a visit to a qualified doctor, for more serious illnesses. Many more people cannot afford hospitals care as illustrated by a large household survey which found that hospital utilisation rates were three times as high in rich counties as in poor ones. In the poor counties 45 percent of people referred to hospital did not receive care, largely because they could not afford it.

#### **Problems in the preventive programmes**

A large percentage of children are immunised in most counties. However, the preventive programmes are less closely supervised than before and in some areas they are having financial problems due to low levels of government funding and the unwillingness of many peasants to pay for these services. The effect this can have is illustrated by Donglan County in which coverage fell from 85 percent during the late 1980s to below 50 percent in many townships in 1992. Other preventive programmes are also showing signs of similar deterioration in some areas.

#### **Financial problems of health facilities, particularly at village and township levels**

Village health workers earn much more from health work in rich areas than in poor ones. That is because they are able to generate more revenue from fees and drug sales and many of them receive salary payments from their village welfare fund. The only support provided by the government, in most areas, are small payments for work in preventive programmes.

Village health workers in poor areas cannot afford to spend much time on activities for which they are not adequately paid. As a result, some spend a great deal of time in non-health activities and many concentrate on providing curative care and selling drugs, neglecting preventive work. Rural doctors in poor areas are also unwilling to spend money on equipment, in-service training and maintenance of facilities.

Government grants to county and township-level facilities have not kept pace with salary increases. Township health centres find it particularly difficult to meet their wage bills and many have had to cut spending on maintenance and consumable inputs because they could not generate enough revenue from fees and drug sales. Health centres in many poor townships have lost their most qualified personnel to better paid positions in urban centres or private practice.

The strategies health facilities employ to increase their income, such as selling more drugs and offering specialised services contribute to increases in the cost of care. They also require a diversion of efforts from basic preventive and curative services. Health service managers need to find ways to improve the income of health workers without incurring major increases in health expenditure.

#### **Falls in funding for supervision and in-service training**

Most anti-epidemic stations and maternal and child health centres are no longer fully funded by the government. In counties where the employees of these facilities spend much of their time providing specialised services to those who can afford to pay, the supervision of the rural preventive programmes has suffered. County hospitals and township health centres also concentrate on direct service delivery, allocating few resources to supervision and training of rural personnel.

### **A STRATEGY FOR HEALTH SECTOR REFORM IN POOR RURAL AREAS**

The MoPH has responded to these problems by urging local governments to establish cooperative health care schemes (CHCSs). It hopes that these schemes, which derive revenue from a number of sources and reimburse members for part of the money they spend on medical care, will increase the income of service providers and improve access to care. In spite of its efforts only 7 percent of the population were enrolled in a CHCS in 1994.

One reason for the slow spread of schemes is that most initiatives have focused narrowly on revenue generation and have not ensured that scheme members received an appropriate mix of cost-effective services.

It is impossible to define a blueprint for reform because the rural health sector differs so much between localities. The aim of this paper is to provide decision-makers with a framework to use in developing local strategies for re-establishing sustainable health services in poor areas.

### **Define the components of the package of basic health services**

The first step is for the government to define a minimum package of health services which it believes should be provided to residents of poor counties as a right. The package will include a number of preventive programmes and access to outpatient care and basic inpatient treatment. The roles of village, township and county levels in providing each component of the package need to be established. Each locality will have to decide precisely what services to provide and how to organise them.

### **Determine the cost of providing the package of basic health services**

The cost of providing the package of basic health services has to be determined. The starting point must be current levels of spending by health services in areas where coverage is good. However, under- or over-spending on particular inputs needs to be taken into account. There is considerable potential for cutting drug costs and reducing the number of health workers. However, the pay of some health workers needs to be improved and, in addition, health services in many poor areas need to spend more on consumable inputs, maintenance, replacement of equipment, supervision and in-service training.

### **Establish a secure financial basis for basic health services**

Once the cost of a basic package of health services has been estimated, a strategy must be formulated for financing it. Patients will continue to pay directly for a substantial portion of the cost of their care, however, third-party payers should ensure that:

- preventive programmes are adequately funded;
- rural health workers have an adequate income without selling large amounts of drugs;
- individuals are protected against the need to pay large hospital bills; and
- the poor have access to basic services.

The principal third party payers will be government budgets, CHCSs and extra-budgetary funds of township governments and village committees. In addition, social relief should provide support to poor households

Government budgets should fund the following inputs, as they did until the early 1980s:

- the costs of the preventive programmes;
- the basic salaries of enough county and township-level employees to provide the package of basic services;
- building maintenance; and
- essential training and supervisory activities.

The government should also provide some salary payments to village health workers in poor areas. Many county governments will have to increase health's share of total expenditure in order to meet these obligations.

CHCSs should provide a combination of 'welfare' and 'risk'-type coverage. The welfare component would enable members to visit village and township-level health workers at subsidised prices or free of charge. It might also provide treatment and drugs at subsidised prices if the money were available and measures were taken to control costs. The risk component would enable members to claim reimbursement for a portion of the cost of inpatient care.

Household contributions are an important potential source of funds for CHCSs. It is difficult to raise substantial contributions on a purely voluntary basis and contributions to a CHCS should be viewed as a local tax earmarked for health. The decision of the State Council to limit levies on peasants to 5 percent of income constrains the ability of township governments to collect such taxes and underlines their need for additional sources of revenue. It also highlights the importance of ensuring that township governments are answerable to the local population for their use of funds.

Township governments and village committees, in the more developed parts of the country, own non-agricultural enterprises which pay them a considerable amount of so-called 'extra-budgetary' revenue. They invest most of this money but they also use some of it to pay village health workers a salary and contribute to the local CHCS. The importance of extra-budgetary revenue as a source of health finance is illustrated by the finding that most areas with a successful CHCS had high levels of non-agricultural production in 1987.

Township governments in areas without much non-agricultural production find it difficult to fund local health services. The transfers which they receive from higher levels of government enable them to pay only part of the health centre salary bill. In order to increase their spending they will have to levy higher taxes on peasants unless higher levels of government provide more fiscal support to them.

There are a number of possible channels through which additional funds could be targeted on basic health services in poor areas including:

- an extension of the present system of inter-governmental fiscal transfers;
- a widening of the mandate of anti-poverty programmes to include some of the costs of basic health services; or
- an increase in funding by provincial health departments and county health bureaux.

All of these channels would involve substantial changes in the pattern of allocation of government resources. It will be necessary to build a political consensus on the importance of providing access to basic health services in order to convince rich areas to accept such a redistribution.

### **Improve social relief**

Access to basic health services is an essential component of a safety net for the poor. However, many poor people cannot get health care when they fall sick and their families can become impoverished. Any improvements to social relief in poor areas will have to be funded through a combination of government subsidies for basic health services and payment out of social relief funds for items not provided free to everyone, such as drugs and inpatient treatment. It will be necessary to limit the items covered by social relief to some essential drugs and to the basic inpatient care required to prevent the impoverishment of families of the severely ill.

### **Take measures to decrease waste**

Efforts to raise additional funds for rural health services must be complemented by measures to make better use of the available resources. Otherwise, there is a risk that costs will rise rapidly.

Control drug costs Drugs account for approximately one half of expenditure on curative care in rural areas. Many of the products sold to patients should not be included in a package of basic health services.

The government needs to regulate drug use in order to minimise the number of drug-induced side-effects and reduce costs. It should categorise products as follows:



those supplied to whoever wishes to buy them, those available on prescription from a health worker, and those prescribed by personnel with specialised training. Rural doctors should be allowed to prescribe only a small number of essential drugs for treating common problems. Statutory controls have to be supplemented by measures such as the formulation of drug use guidelines, organisation of in-service training courses and supervision of curative work.

Providers of health services should lose the right to earn profits from selling drugs so that they no longer benefit from encouraging high levels of use. This would be an important step towards controlling drug costs. However, health workers would have to be compensated with alternative ways of earning a living.

There are strong arguments for providing the following drugs at subsidised prices or free of charge {the potential sources of funds are in the brackets}:

- those to treat people with diseases which are a public health hazard such as leprosy, tuberculosis, sexually transmitted diseases {government public health programmes};
- drugs supplied to the poor {social relief and/or government subsidy of basic health services for poor areas}; and
- drugs for the severely ill who need expensive treatment {CHCSs and social relief}.

Determine how many health workers are required In order to estimate the personnel costs of basic services both the number of people required and the amount of money they should be paid must be defined. In most areas a full package of basic services could be provided by fewer people than are currently employed. This is suggested by the fact that many health workers at village and township levels have low workloads. In spite of this there are shortages of the more highly qualified personnel. Unless the government defines how many of the different categories of health workers are needed, additional funding for basic health services could simply improve the income of the existing personnel without changing the volume or quality of services they provide.

#### **Pay health workers a salary linked to achievement of performance targets**

The present system, in which health worker pay is linked to the amount of revenue generated from service fees and the sale of drugs, needs to be changed. This is particularly important for rural doctors, many of whom earn almost all of their income from payments by patients.

Rural doctors should receive a substantial proportion of their income as a salary which reflects their qualifications and experience, the duties they carry out and the number of people for whom they are responsible. Levels of pay should also be related to the achievement of targets, such as levels of coverage by preventive programmes, satisfaction of patients and improvements in efficiency. Similar provisions could be made for linking the size of the bonuses paid to employees of township health centres to measures of performance other than revenue generation. The increased emphasis on the quality of service delivery should be linked to a broader effort to develop in health workers a greater awareness of their professional responsibilities.

The change in the system of health worker pay would involve a shift away from the present model of organisation of CHCSs, in which most payments are made to reimburse members for out-of-pocket payments. The scheme would pay health service providers directly in exchange for their commitment to meet specified service targets, as outlined in the following paragraphs.

#### **Develop contracts which specify targets for service as well as cost**

Many rural health service providers sign a contract with a township government or village committee. One can envisage a system in which health facilities at village and township levels agree to provide a package of preventive and curative services, at subsidised prices or free, in exchange for a fixed payment funded by a combination of the government and a CHCS. Mechanisms would have to be established to ensure that they were penalised for failing to meet their contractual obligations.

The situation is more complicated for county hospitals, which serve a number of townships and many of whose patients are covered by work-related insurance. Efforts to monitor their services would have to be coordinated by a county-level regulatory body on which the principal stakeholders such as township governments and the work-related schemes were represented. This body would monitor the quality and cost of services provided and would review decisions with regard to investments and payment of bonuses.

#### **Re-establish a capacity to plan and monitor health services**

County and township level health services need to undertake the following planning and regulatory tasks:

- set targets for preventive programmes and monitor their achievement;
- regulate drug use to prevent dangerous practices and control costs;

- provide further education to health workers and monitor the quality of their work;
- monitor the cost of inpatient care;
- negotiate contracts with health service providers and monitor their performance;
- maintain records on all sources of finance and coordinate resource allocation;
- disseminate information on the performance of the local health services.

Health management is weak in many areas and a considerable effort will be required to establish effective regulatory systems.

The government could establish health authorities to undertake these tasks. These authorities would either be part of the government system or would be semi-autonomous. There are strong arguments for the latter option in the case of townships where, in addition to undertaking regulatory functions, they would manage funds derived from household contributions and other sources of extra-budgetary revenue. Township governments will probably prefer to establish an extra-governmental body, in order to prevent higher levels of government from capturing these funds.

In order to make health authorities answerable to the population they must be given a clear legal mandate, effective management procedures should be developed, and major stakeholders should be represented on their board. It will also be necessary to empower higher levels of government to audit the use of funds and provision of services by township health authorities.

### **Develop political backing for rural health services**

A successful reform of rural health services will require a high degree of political support from all levels of government; an increased sense of mission by health workers; and a greater understanding by the population of the importance of basic health services.

National, provincial and county governments need to support basic health services by increasing funding of preventive services, improving social relief provisions, guaranteeing funding for basic health services in poor townships and villages, and carrying out a number of training, planning and regulatory functions.

Township governments and village committees must allocate a higher proportion of their budgetary and extra-budgetary revenue to health, improve health sector management and ensure equitable access to health services.

Health services need to be made accountable to their community by ensuring that all stakeholders (for example, township governments, village committees and special interest groups such as organisations of health workers, peasants and women), are adequately represented on bodies which monitor service providers and decide on resource allocation.

The public needs access to information on the health services. Health authorities could publish short reports on a regular basis with information on health problems, resource use and the achievement of service targets. This would enable the population, or their representatives, to make informed decisions about the health services and would contribute to the creation of a constituency in support of health sector reform.

## ANNEX

### FINANCING HEALTH SERVICES IN RURAL CHINA: ADAPTING TO ECONOMIC AND ADMINISTRATIVE REFORM

#### 1. SOURCES OF DATA

This paper draws on two studies of rural health services. The first covered 20 counties in different parts of the country. It included a household survey on service utilisation and a review of the financial records of village, township and county level health facilities for 1987. This paper presents findings from the six richest and seven poorest counties in the sample. The former are among the most highly developed in the country but the latter are classified as moderately poor since the study did not include the very poorest counties. The second study covered three poor counties. The financial records for 1992 from health facilities at township and county levels were reviewed and key informant interviews and focus group discussions were organised. In the remainder of this paper the two studies will be referred to as the '1987' and '1992' studies

In addition, the SMU and the Expert Commission on Health Policy and Management of the MoPH have organised a number of consultative workshops attended by senior managers from provincial health departments and county health bureaux. The discussion in this paper is greatly enriched by the contributions of participants to these meetings.

#### 2. CHINA'S RURAL HEALTH SERVICES PRIOR TO THE 1980s

China's health services have given priority, for many years, to prevention and provision of basic care. By the end of the 1970s the so-called 'three-tier health services' were well established throughout most of rural China: approximately 85 percent of villages had a health station staffed by one or more barefoot doctors who provided a combination of curative and preventive services; the township health centres provided referral services and supervised the village health workers; and the county health bureaux, the lowest level of the government system, planned and supervised the county's health services. The rural health services provided most of the population with access to basic curative care and organised a number of preventive programmes.

The rural health services were funded by both government and communes. The former paid the salaries of government employees and covered the operating costs of county-level facilities and the preventive programmes. The latter paid non-government health workers, notably the barefoot doctors, a share of agricultural output much like any other member of the collective. In addition, the communes allocated a portion of agricultural output to a welfare fund out of which contributions were made to cooperative medical schemes. These schemes, which covered 82 percent of villages in 1978, reimbursed patients for a significant proportion of the cost of medical care.

Health services were funded quite differently in the urban areas, where almost everyone worked for state-owned enterprises or the government. Employers paid for medical care through the public sector medical scheme or labour insurance. These schemes, which are referred to collectively in this paper as 'work-related insurance', covered almost the entire cost of both outpatient and inpatient medical treatment.

### 3. HOW ECONOMIC AND PUBLIC SECTOR REFORM HAS AFFECTED THE RURAL HEALTH SECTOR

China's transition from a command economy to a 'socialist market economy' has involved change in every aspect of economic organisation and public administration as the following incomplete list illustrates:

- a shift from collective to household agricultural production;
- the phasing out of price controls;
- the reform of state-owned enterprises to allow them to retain profits and give them independence from the influence of bureaucrats and politicians;
- the phasing out of the guarantee of jobs for life and the introduction of profit-related bonuses;
- the rapid development of private and collectively-owned enterprises; and
- the devolution of tax authority and public sector financial management.

The impact of these changes on the rural health sector is discussed in sections 3.1-3.3.

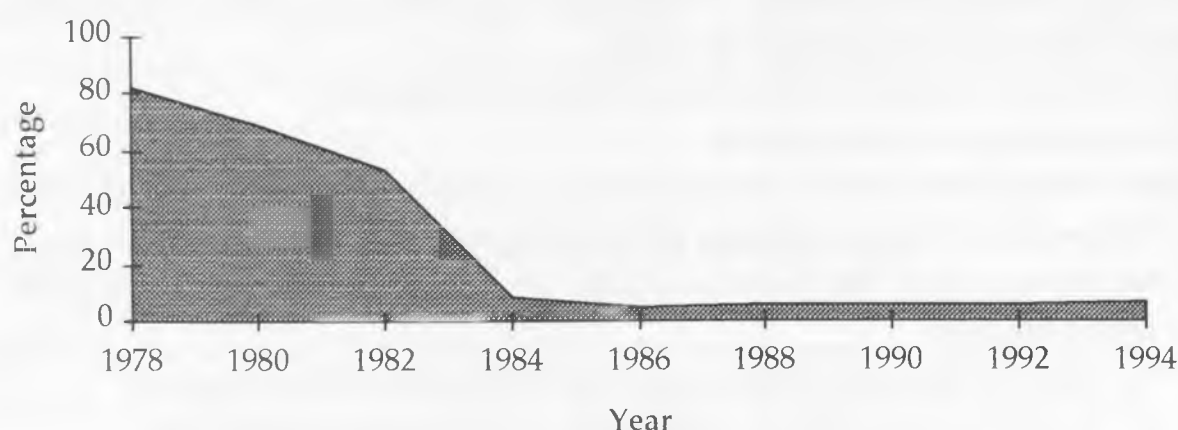
The reforms have taken place against a background of rapid economic growth. China's gross national product increased by 9 percent a year, in real terms, between 1978 and 1992 (SSB 1993). This growth has been uneven and inequalities have increased between regions and between households within a single locality.

### 3.1 Relative increase in individual payments for health services

Individual households now work almost all of the land under the 'production responsibility system'. This has contributed to a rapid increase in output and a substantial rise in income for most households. It has also led to the replacement of the communes by townships which are now the basic unit of local government.

Many townships face serious financial problems because they can no longer retain a share of agricultural production and because peasants have resisted tax increases large enough to replace this lost revenue. This has led to a sharp decrease in collective funding for health and other services. Most villages no longer subsidise their local health workers and by 1984 only 8 percent of villages had a cooperative medical scheme (Figure 1). The Ministry of Public Health (MoPH) is encouraging counties to replace the collapsed schemes with new 'cooperative health care schemes' (CHCSs) in which it aims to have 70 percent of the population enrolled by the year 2000. In spite of this, only 7 percent of villages had such a scheme in 1994. Most peasants pay most of the cost of their medical care in cash.

Figure 1, Percentage of Villages Covered by a CHCS 1978 - 1994

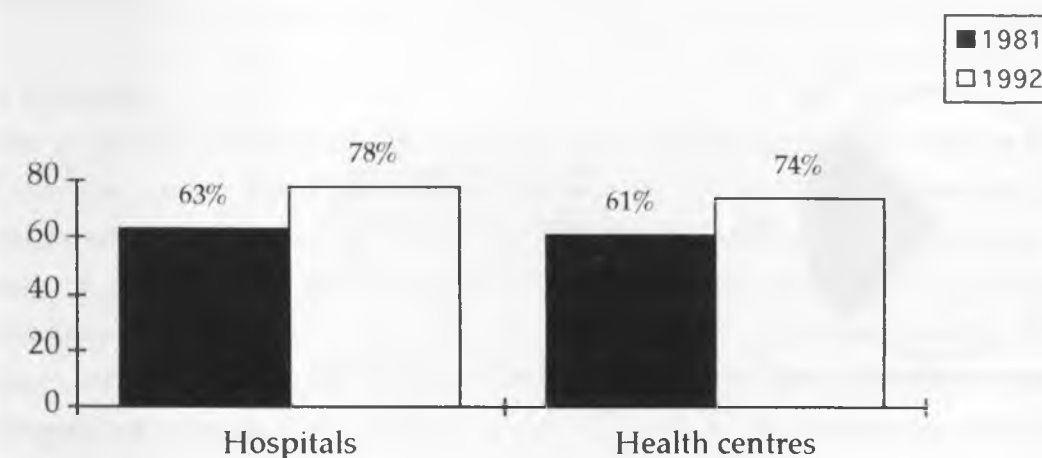


Sources: Selected Edition on Health Statistics of China, MoPH, 1991 and personal communication by SQ Zhou

Government's share of total health expenditure fell from 28 to 18 percent between 1980 and 1988. The decrease in government's contribution to rural health facilities is illustrated by Figure 2. Hospitals and health centres in the counties included in the

1992 study funded approximately 75 percent of their budgets out of fees and the sale of drugs in 1992 compared with just over 60 percent in 1981. Furthermore, in 1981 patients had been reimbursed for a substantial proportion of these payments by the cooperative medical schemes. This indicates how much the financial burden on households has increased since the early 1980s.

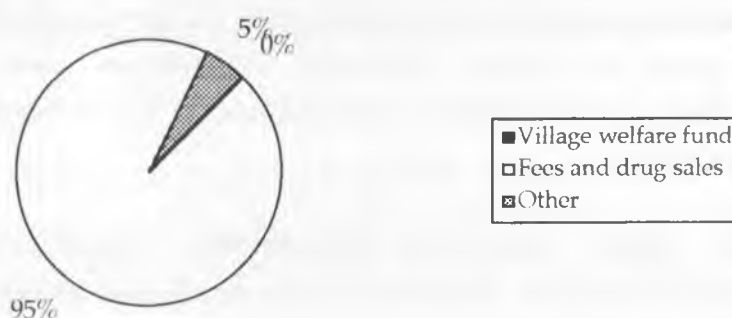
Figure 2, Percentage of budgets of hospitals and health centres derived from charges to patients in 1981 and 1992 in three poor counties



Sources: County health bureaux as reported in Tang et al (1995)

In many parts of the country village health stations depend even more than health centres and hospitals on payments by patients. 95 percent of the income of health stations in poor counties in the 1987 study came from this source (Figure 3a).

Figure 3a, Sources of finance for village health stations in 5 poor counties in 1987

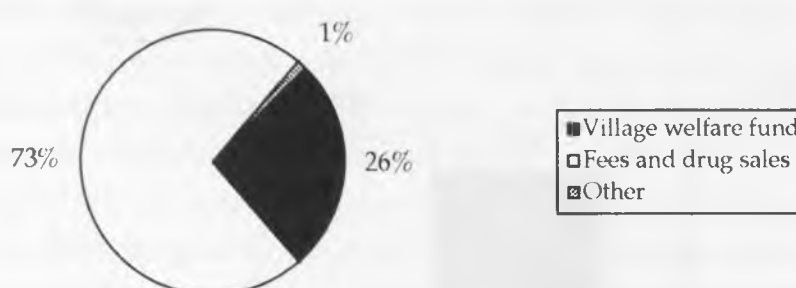


Sources: Questionnaires completed by rural doctors as reported in Tang et al (1994)



Some village committees still fund local health services, particularly in areas with substantial levels of non-agricultural production. For example, the 1987 study found that over a quarter of the revenue of health stations in rich counties came from this source (Figure 3b).

Figure 3b, Sources of finance for village health stations in 6 rich counties in 1987



Sources: Questionnaires completed by rural doctors as reported in Tang et al (1994)

### 3.2 Increased autonomy of health service providers

Administrative and political authorities have less influence over health service providers than in the 1970s. This is due to a number of factors including the devolution of government functions, the increased authority of enterprise managers and the decreased importance of the government as a source of finance.

The government has devolved control of its resources to lower levels. Each tier of government funds its own facilities; provinces fund referral hospitals, counties fund general hospitals and townships fund health centres. The only financial support which national or provincial departments of health give to county health bureaux are capital grants for building and allocations earmarked for particular preventive programmes. Higher levels no longer determine expenditure plans or set compulsory targets as they once did under central planning. The vertical lines of authority are weaker as a result.

The Government has made enterprises substantially independent from administrative and political structures. Enterprises now retain their profits and use them to finance investments and pay bonuses or fringe benefits to their employees. Managers of health facilities have similar powers. Half of the rural doctors are private practitioners.

Political factors are less important to the health services than during the 1970s. One of the most important reasons is the shift to household agricultural production which has made it difficult to organise large public health campaigns because people now have to be paid for their time. In addition, there has been a reaction against the intensive political mobilisation which took place during the Cultural Revolution. Health service providers are subject to less political control. Barefoot doctors used to be answerable to local political leaders on a daily basis, but rural doctors now work as individual practitioners under virtually no supervision. The same is true to a lesser extent of higher levels in the health service.

### 3.3 Summary

Prior to the 1980s the rural health sector was tightly organised to deliver a package of services under the dual authority of the MoPH and the Communist Party. A decade and a half later, the structure of the health sector is more diverse. In some parts of the country the changes have been minor and collective bodies have established alternative mechanisms for funding and overseeing health services. In other areas, particularly very poor ones, rural health services resemble an unregulated market. The situation in most parts of the country is between these extremes.

A number of problems have come to prominence over the past few years. These problems differ between regions. The urban areas have experienced rapid increases in medical costs. Between 1980 and 1988 real expenditure per enrolled member grew by 9 percent a year for the public service medical scheme and 5 percent a year for labour insurance, according to the report on the 1987 study. This was partly due to the ageing of the population, but was also a result of the system of payment in which hospitals generate income by using sophisticated equipment and selling a high volume of drugs. Rich rural areas, which tend to be in good communication with a city, are also experiencing increases in health expenditure. For example, one county recently reported that its CHCS had collapsed as a result of rapid rises in claims for hospital care.

The situation is different in the poor parts of the country, where the most pressing issues are the inability of the poor to get access to basic care and the financial problems of health facilities. Sections 4 and 5 discuss these problems in more detail.

## 4. ACCESS TO RURAL HEALTH SERVICES

This section discusses the degree to which the population had access to health services in the counties included in the 1987 and 1992 studies. It discusses three aspects of access to health services: the physical availability of facilities; the coverage of preventive programmes; and access to curative care.

### 4.1 Availability of facilities

Most people live within easy reach of a health facility. The 1987 study found that there were 95 health stations for every 100 villages in all but one very rich county and the 1992 study found a similar situation in two of the three counties.

The 1992 study found a more complex picture; in two of the counties most villages had a facility but in Donglan, a very poor county, there were only a small number of health stations. However, rural doctors provided services from their own houses in many of that county's villages. The lack of health stations indicated the breakdown of the relationship between village health workers and higher levels in the health sector rather than a total absence of services.

The Donglan example highlights the substantial inter-regional differences in the quality of village services. The 1987 study found that all health stations in the rich counties had a sphygmomanometer and a means of sterilisation while only 36 percent of facilities in the moderately poor counties had the former and 47 percent the latter. These findings suggest that many people in poor areas do not have access to effective services in spite of living near to a health facility.

### 4.2 Coverage by the immunisation programme

Immunisation was the only preventive programme for which data were collected in the 1987 and 1992 studies. All of the 17 counties in the 1987 study for which data were available reported that over 80 percent of seven year old children were fully immunised. This was the result of a national immunisation programme which reported in 1989 that all provinces had achieved 85 percent coverage.

Two of the three counties in the 1992 study reported high levels of immunisation. However, in Donglan coverage had fallen substantially since 1989, and less than 50 percent of children were immunised in some townships. Many health centres in that county no longer actively promoted immunisation. The reasons for the problems of Donglan's immunisation programme, such as falls in government funding, the unwillingness of peasants to pay for preventive services and weak supervision of

grassroots services, are found in other very poor counties. This underlines the need for action to ensure that the immunisation programme remains effective.

Other preventive programmes are also experiencing difficulties, according to a recent publication by the World Bank (1992). It reports that half of all current tuberculosis cases have not received full treatment and many have developed resistant forms of the disease. One reason for this is that the poor find it difficult to pay the charges for diagnosis and treatment which have been in force since the early 1980s. The government has recently introduced subsidies for tuberculosis treatment. The same document reports that there has been a resurgence of schistosomiasis in areas where it had previously been eradicated and that MCH services are weak in many poor counties.

#### **4.3 Access to curative care**

The 1987 study found that 77 percent of people reporting an illness during the two weeks prior to the survey consulted a health worker. This suggests that access to basic curative care is good. However, an indication that ability to pay does influence access to medical care is the finding that 23 percent of people sick enough to miss work or stay in bed did not seek care in moderately poor counties, compared with 16.5 percent in rich ones. The most common reason given for not seeking care in the latter area was that it cost too much. The 1992 study also found instances when a poor patient could only afford a partial course of drugs they were prescribed.

The 1987 study found that the level of hospital utilisation in an area was related to its average income. People who were covered by neither work-related insurance nor a CHCS reported almost three times the number of admissions and more than three times the number of hospital days per thousand in the rich counties than in the moderately poor ones (Table 1). On the other hand, people covered by work-related insurance, which provided hospital care almost free of charge, reported high utilisation levels in both rich and poor counties. This suggests that the regional differences in utilisation were due to economic factors.

The hypothesis that there are substantial financial barriers to hospital care is supported by the finding that 45 percent of people referred by a doctor in the moderately poor counties did not get hospital care, compared with only 9 percent in the rich counties and an even lower percentage among those covered by work-related insurance. 63 percent of those who were not admitted said it was because it cost too much.

Table 1, Indicators of access to inpatient care in rich and poor counties in 1987

	Admissions per 1000 people	Bed-days per 1000 people	Percentage of people referred to hospital but not admitted (%)
Rich counties			
state insurance	80	721	3
uninsured	60	535	9
Poor counties			
state insurance	62	495	5
uninsured	23	163	45

Source: Household survey

## 5. FINANCIAL SITUATION OF HEALTH SERVICES IN POOR RURAL AREAS

It is difficult to obtain a clear picture of the changes in funding of rural health services. The only accurate data are for county health bureaux budgets. Township and county level facilities submit accounts to the government, however, it is widely believed that they exaggerate their financial problems and understate the bonuses paid to staff. Village health stations do not submit any financial information to government and the only way to obtain data on them is through a special study.

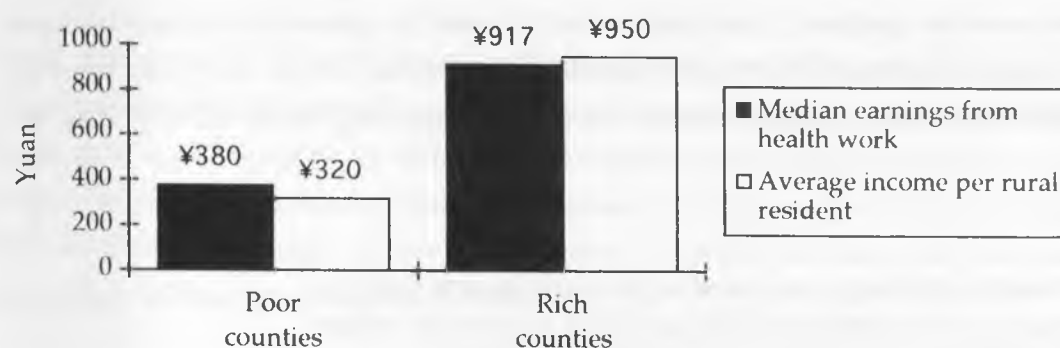
The following sections provide information on the financial situation of health services in poor areas: Section 5.1 discusses the problems of village health services, comparing the earnings of personnel in rich and poor areas; Section 5.2 discusses trends in real expenditure by county and township level health facilities; and Section 5.3 discusses how spending on drugs, personnel and other inputs to rural health services has changed.

### 5.1 Village health services

Village health services receive little support from the government and depend almost entirely on local resources. As a result, their level of funding is related to the income of peasants in their locality. This is illustrated by the 1987 study which found that rural doctors in the rich counties earned almost two and a half as much from health work as those in the moderately poor counties (Figure 4). Earnings from health work in both regions were more or less the same as the rural income per capita. Families of village health workers had to supplement their income from other sources, including working the land, in order to reach this income level. In poor counties, this other income was necessary to avoid poverty, and the opportunity cost

to a health worker of undertaking poorly paid work in preventive programmes was higher than in rich ones.

Figure 4, Earnings for health work by village health workers in villages without a CHCS compared with average income per rural resident in 1987



Sources: Survey completed by rural doctors as reported in Tang et al (1994)

Villages financed the operating costs of their health stations prior to the 1980s. Rural doctors now have to pay these expenses out of their own earnings except in a minority of villages which still fund their health station. This has resulted in a deterioration of facilities and lack of equipment in poor areas.

## 5.2 County and township health services

All three county governments included in the 1992 study increased the budget of their health bureaux faster than the rate of inflation between 1981 and 1992 (Table 2). The rate of increase was slower in Donglan, the poorest county, than in the other two.

Table 2, Percentage change in recurrent expenditure by county health bureaux in three poor counties between 1981 and 1992 in constant prices<sup>1</sup>

	Total (%)	Hospitals (%)	Health centres (%)	Anti-epidemic stations (%)	MCH centres (%)	Other (%)
Donglan	6	133	11	-23	17	-68
Shibing	53	46	41	29	84	195
Xunyi	27	-8	9	62	331	63

1. See note 1, Table 1

Source: County health bureaux

The county health bureaux allocated their additional resources quite differently. Donglan gave priority to its hospital and provided little additional funding to other facilities, Shibing expanded funding of all services and Xunyi favoured preventive programmes.

County hospitals and health centres increased their spending substantially in all three counties (Table 3). That was because they funded a large share of their budgets out of payments by patients. Hospitals found it easier to generate revenue because they were better equipped and had a number of patients whose care was paid by work-related insurance. Health centres increased spending more slowly than the hospitals.

Table 3, Percentage change in spending by rural health facilities in three poor counties between 1981 and 1992 in constant prices<sup>1</sup>

	Hospitals (%)	Health centres (%)	Anti-epidemic stations (%)	MCH centres (%)
Donglan	146	70	-18	109
Shibing	91	49	46	171
Xunyi	183	45	201	1056

1. See note 1, Table 1

Source: County health bureaux

The preventive programmes in the counties included in the 1992 study had different experiences. Xunyi's anti-epidemic station and MCH centre both increased their spending several-fold between 1981 and 1992 (Table 3). On the other hand, Donglan's anti-epidemic station decreased its spending by almost 20 percent, at constant prices, and its MCH centre increased its spending only by generating almost half of its revenue from payments for services not available to the general public. The deterioration of Donglan's immunisation programme indicates the potential consequences of excessive erosion of government funding of rural preventive programmes.

Health workers at all levels have less incentive to spend time on rural preventive programmes than previously. Anti-epidemic stations and MCH centres need to supplement their government grants to pay their operating costs and provide bonuses to employees. They charge for some routine preventive services, but they earn much of their revenue by providing additional services to those who can afford to pay. For example, MCH centres serve pregnant women living in the county town and anti-epidemic stations carry out food inspections in restaurants, all for a fee.

### 5.3 Spending on major inputs to rural health services

The 1992 study found that health centres and hospitals spent, on average, 48 percent on drugs and 34 percent on personnel. There have been considerable changes since the early 1980s in how decisions are made about spending on these items and these have influenced the pattern of resource allocation.

**Drugs** Drug use is virtually uncontrolled and even partially qualified rural doctors can prescribe and sell everything except narcotics and major tranquillisers. Sellers of drugs earn a mark-up of 15 percent on Western drugs and 20 percent on Chinese drugs. This is an important source of revenue for rural health facilities. It is widely believed that the linkage between the income of health workers and the amount of drugs they sell has encouraged overuse.

Table 4 presents data on changes in drug use between 1981 and 1992 by facilities included in the 1992 study. This was estimated by deflating total drug expenditure by the pharmaceutical price index, which rose marginally faster than the retail price index. County hospitals more than doubled the volume of drugs they sold and township health centres increased drug sales somewhat less (Table 4).

Table 4, Percentage change in major inputs to hospitals and health centres in three poor counties between 1981 and 1992<sup>1</sup>

	Hospitals			Health centres		
	Personnel (%)	Drugs (%)	Other (%)	Personnel (%)	Drugs (%)	Other (%)
Donglan	63	90	178	16	106	-26
Shibing	35	99	3	10	44	-21
Xunyi	52	286	70	-1	54	-38

1. Personnel deflated by index of pay of workers in health care, sports and social welfare, drugs deflated by pharmaceutical price index, and other inputs deflated by retail price index from SSB (1993), tables T7.4 and T4.36

Source: County health bureaux

A workshop attended by managers of CHCSs concluded that a major reason for the high cost of medical care was the large number of 'small prescriptions', such as vitamins and tonics, and 'big prescriptions', such as expensive branded products. It will be difficult to control costs while relatively untrained personnel can prescribe powerful drugs and health workers earn money from selling these products.

**Personnel** Until the late 1970s there was no labour market in the health sector. Villagers who were trained as barefoot doctors received a share of collective production whether they spent time on health or agriculture. Some communes



employed people to work in a health centre on similar terms. Almost all other health workers worked for the government or state-owned enterprises. They were trained in a government institute and took any job to which they were assigned. Government employees were paid almost the same salary wherever they worked.

Some market elements have been introduced into the conditions of employment in the health sector: health workers can change their job; they are no longer guaranteed employment; they are paid a bonus whose size varies between facilities; and they can practice privately. The average annual pay of government employees in health care, sports and social welfare has risen substantially from ¥750 in 1981 to ¥2812 in 1992, an 84 percent increase relative to the rise in retail prices, according to the State Statistical Bureau. These changes have created difficulties for rural health facilities.

In Table 4 spending on personnel has been deflated by an index reflecting the average level of pay. All three county hospitals included in the 1992 study increased their wage bill by more than the average salary level. This was funded partly out of increases in the government grant and partly out of earnings from fees and drug sales. The health centres, on the other hand, could only keep up with pay rises by cutting real spending on operating costs. In spite of this they had lost experienced personnel to jobs in the cities or into private practice. This helps explain the widely held belief that the services provided by many health centres in poor areas have deteriorated since the early 1980s.

The demands by health workers for a better income are a source of pressure on government. This was made clear by the director of the health bureau of a relatively poor county who told the authors that his top priority was to stabilise his work force by giving them better pay and benefits.

Rural health facilities have had limited opportunities to generate additional income from charges for basic health services, since utilisation of outpatient care is already high and service fees are low. The strategies which they most commonly employ are to increase drug sales, establish a sideline business such as the production of Chinese medicines or provide specialised services to those who can afford them. All of these options require a substantial increase in spending by patients in order to yield a small increase in earnings by health workers. They also require a diversion of efforts from basic preventive and curative services.

One of the most important challenges facing policy-makers in the health sector is to find ways to improve the income of health workers without incurring major

increases in health expenditure. Sections 6 and 7 argue that such a strategy must include a means of financing universal access to basic health services and a change in how providers of health services are paid.

## 6. SOURCES OF FINANCE

The MoPH is encouraging local governments to improve the funding of rural health services by establishing CHCSs. These schemes share a number of characteristics. They are organised on a not-for-profit basis and most are managed by township or village-level committees. Their aim is to provide members with access at low cost to essential health services. Most cover both outpatient and inpatient care but some cover only inpatient treatment. Some schemes provide free services to their members but mostly they reimburse members for the money they spend on medical care. The members can generally claim only a portion of their costs and there is usually a ceiling beyond which the scheme will not pay. CHCSs derive revenue from several sources including 'voluntary' contributions by households and grants from township governments or village welfare funds. The following paragraphs explore the different potential sources of additional revenue for rural health services.

### 6.1 Contributions by households

Policy makers had hoped that CHCSs would be able to collect money from households whose income had substantially increased since the introduction of the household responsibility system. This has been difficult for a number of reasons including problems intrinsic to voluntary health insurance and the absence of a mechanism to ensure that the poor can pay for medical care.

Problems with voluntary insurance A number of explanations have been put forward for the failure of voluntary insurance to establish itself as a means of financing the population's health care in most industrialised countries. One is so-called 'selection bias'; the preferences of healthy people not to pay for coverage, and of the aged and sick to do so. Another is the resistance by better-off households to joining a scheme in which the size of the contribution is linked to household income. These factors may have retarded the growth of this kind of scheme in rural China.

Most successful CHCSs are not fully voluntary. For example, in the 1987 study, in three-fifths of villages with a scheme more than 90 percent of their population were members. This is not the pattern one would find if households could decide each year whether they wished to contribute. The success of a scheme depends on the ability of local leaders to ensure that people join and remain in it for several years.

Safety net for the poor All rural households are entitled, in theory, to enough support to avoid absolute poverty for either the five guarantees or social relief programmes. However, in practice, these programmes do not cover all poor households and they provide only low levels of support.

In 1990, according to a recent World Bank publication (1992) 97 million rural people had an income below the official poverty line. During the same year 2.5 million received five-guarantees support and 26.3 million received relief funds. Even in rich areas, little money is available for medical care. The directors of the county health bureaux and of the departments of civil affairs in the three poor counties included in the 1992 study reported that social relief spend almost nothing at all on medical care during the study year.

In the rich counties the lack of an adequate safety net for the sick poor could be solved if local governments would give higher priority and better funding to social relief. Social relief would then be able to pay for medical care for the poor or contribute on behalf of them to a CHCS. In poor counties the problem is more difficult since local governments cannot fund an adequate safety net without support from higher levels of government.

## **6.2 Township governments and village committees**

Township governments and village committees help to fund health services in most localities with a CHCS. In many areas, however, these bodies face serious financial problems. One reason is that China's political leaders do not want to impose large amounts of direct tax on peasants.

Local governments have asked peasants to contribute money for a number of services in the hope that they would find this more acceptable than a general tax. However, as the number of levies has proliferated, resistance has occurred. In mid-1993, the State Council responded by limiting collections by collective bodies to 5 percent of household income. This underlines how the attempt to finance health through CHCSs is linked to the effort to establish a stable system of local government finance.

China shares the problem of establishing a sound basis for funding local services with a number of other transitional economies. One difference in China, however, is the rapid growth in the number of township and village-owned non-agricultural enterprises. As well as remitting taxes to the government, local enterprises pay

management fees and profits to the village or township which owns them. They are an important source of 'extra-budgetary revenue' which townships and villages use to reinvest and spend on local services. These enterprises also pay for a portion of the medical costs of their employees.

In more developed parts of the country it would be possible to fund rural health services through a combination of household contributions to a CHCS and allocations by townships and villages out of their extra-budgetary revenue. The major constraint is the willingness of township governments to make the resources available. The situation is different in regions which do not have much non-agricultural production, and where peasants have little money to spare. Township governments in poor areas will not be able to provide access to basic health services while keeping levies on peasants to a minimum, unless they get additional financial support from higher levels of government.

### **6.3 Higher levels of government**

The system of inter-provincial and inter-county fiscal transfers has ensured that even very poor areas have a basic level of government service. It has also made it possible to pay government employees similar salaries throughout the country. However, health facilities in poor areas find it difficult to meet their salary bills and they would have to receive larger transfers in order fully to finance a package of basic health services.

There are three routes through which additional funds could be channelled to health services in poor areas. The first route would be an extension of the present system of inter-governmental fiscal transfers to township and village levels. This would involve identifying localities with low revenue generating capacity and determining the amount of support to which they are entitled. This could only take place as part of a major reform of local government finance. The second route would be to widen the remit of anti-poverty programmes to enable them to fund some aspects of the rural health services. The third route would be for provincial and county health departments to spend more on township and village level services. This would have to be funded out of either increased health budgets or savings on government funding of hospitals. Whichever of the two routes the government chose it would face resistance by potential losers from a substantial reallocation of government funds. It will be very difficult to overcome this resistance.

## 7. RECONSTRUCTION OF A COHERENT HEALTH SYSTEM

The MoPH's response to the problems of the rural health services has been to concentrate on the development of new sources of revenue. However, these problems cannot be solved simply by improving the funding of the health sector. Measures also need to be taken to ensure that appropriate services are provided at a reasonable cost.

### 7.1 Payment of health workers

The MoPH is encouraging townships to establish CHCSs on the model of work-related insurance schemes. Most of the latter either reimburse their members or pay providers of health services on a fee-for-service basis. The design of these schemes has contributed to increases in the cost of coverage.

Many CHCSs have responded to increases in claims by decreasing the percentage of costs which they reimburse. This diminishes the financial pressure on them but increases the barriers to care. It also does not address the reasons why health service providers practise a costly style of care. A better approach would be to offer health workers a way to improve their income without selling large volumes of drugs or providing costly diagnostic tests.

There have been a number of experiments with alternatives to the current dependence of health service providers on service fees and profits from selling drugs to supplement their government grant. For example, some villages in the richer parts of the country pay their health workers a salary. In many of them the health stations transfer their revenue directly into the village welfare fund. There are also a number of schemes in which a household pays a fixed amount for a course of immunisation for a child or for health care during a pregnancy. The money is split between health workers at village, township and county levels in exchange for undertaking a defined role.

There have been some attempts to link pay to a provider's performance. For example, counties in Yunnan Province annually give each health centre a score out of 1000 which reflects achievement of targets in a number of preventive and curative activities; if their health centre scores well the township government pays a small bonus to its staff. In many of the immunisation schemes a family can claim a cash compensation if their child develops one of the preventable illnesses.

Many health service providers sign a contract with a township government or village committee. One can envisage a similar system in which health facilities at village and township levels agree to provide a package of preventive and curative services in exchange for a fixed payment funded by a combination of local government and household contributions to a CHCS. This payment would be less dependent than at present on the amount of revenue generated, and its size could be linked to the achievement of performance targets.

## **7.2 Government's role in monitoring and supervision**

The pre-reform health services were managed through a combination of centralised systems of bureaucratic control and the political mobilisation of the population in public health campaigns. Under this system the health services successfully addressed the most urgent health problems, in spite of their limited resources.

A recent workshop for managers of CHCSs identified a number of problems which have arisen because of the weakening of control systems. Examples were cited of schemes where health worker income rose but users enjoyed few additional benefits; which provided an unfair share of the benefits to family members of powerful people; which could not control costs; and where money collected for health was used for another purpose. One reason why the State Council decided to limit the right of township governments to collect levies would appear to be a concern that some of them did not make good use of the money. These examples underline the need to complement increases in the funding of rural health services with measures to strengthen management and regulation.

Many of the problems with health service management in poor areas are due to a chronic lack of funds. In addition, the political and administrative structures are weak in many poor areas. The health sector reconstruction strategy has to include measures to improve health sector management and ensure that it is adequately funded.

Another reason for the economic problems of the rural health services and the slow spread of CHCSs is that many local leaders do not consider health a priority. This is illustrated by the fact that many county governments do not allocate a high proportion of their budget to health and most townships do not provide their health centres with enough money to cover their salary bill.

The MoPH functions as a source of technical advice and as an advocate for rural health services but it can no longer directly influence local governments. In this

context its recommendation that localities establish CHCSs can be interpreted as an effort to convince their governments to allocate some revenue to health.

The MoPH no longer has the power directly to influence local governments. It functions as a source of technical advice and as an advocate for rural health services. In this context its recommendation that localities establish CHCSs can be interpreted as an effort to convince local governments to give higher priority to health.

The relationship between higher levels and local governments in poor counties may have to change if the provision of essential services, including health, is made a national priority. The MoPH would then revert, to some extent, to its previous leadership role: determining the components of a package of essential health services; formulating guidelines for health management; and monitoring the performance of health services.

The national level is unlikely ever to regain the control it previously held over the behaviour of local administrations. Other mechanisms will have to be established to limit the power of small groups to misuse the resources available for health services. These may include the strengthening of professional associations, particularly those reflecting the interests of rural health workers and the establishment of representative bodies to monitor the behaviour of local health service providers. Information on resource use and health service performance will have to be made available to these bodies.

## 8. CONCLUSIONS

China's experience up to the late 1970s demonstrates that it is possible to provide a package of basic health services at a relatively low cost. However, the lesson of the 1980s is that the organisation of the health services must reflect their economic and administrative environment. It had originally been thought that the problems which arose subsequent to the economic reforms were due simply to a loss of funding and that they could be solved by the establishment of rural insurance schemes. The principal conclusion which has emerged after a decade of experimentation is that substantial changes are required in the organisation of the rural health sector to ensure that any additional money is properly used.

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